Economic Vulnerability, Discrimination, and Hurricane Katrina: Health Among Black Katrina Survivors in Eastern New Orleans

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BACKGROUND**: Few works have viewed disaster relief in the context of socioeconomic disparity and racial inequality before Katrina. **OBJECTIVE**: By using the vulnerable-populations conceptual framework, our study aimed to investigate the relationship among economic vulnerability, perceived discrimination, and health outcomes among 69 Black Katrina survivors in Eastern New Orleans. **STUDY DESIGN**: A mixed-method approach, including survey and focus groups, was applied to collect data. **RESULTS**: Our findings suggested that a higher level of perceived racial discrimination during Katrina and financial strain post-Katrina were associated with more posttraumatic stress disorder (PTSD) symptoms; support provided by network members served to enhance mental and physical health. Compared with Black males, female survivors reported more PTSD symptoms and worse mental health. **CONCLUSIONS**: It is imperative for nursing scholars and public policies to directly address the intricacies of race, class, and gender inequality to deliver interventions tailored to meet the unique needs of vulnerable populations.* ***J Am Psychiatr Nurses Assoc, 2007; 13(5), 257-266. DOI: 10.1177/1078390307307260

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Poor physical and mental health has been linked to residence in economically disadvantaged neighborhoods (Blank, 2005; LeClere, Richard, & Kimberly, 1997). Inhabitants in poverty-stricken neighborhoods experience higher mortality (LeClere et al., 1997) as well as a higher prevalence of chronic disease conditions (Robert, 1998), depressive symptoms (Aneshensel & Sucoff, 1996; Ross & Mirowsky, 2001), and self-reported poor health (Franzini, Caughy, Spears, & Fernandez-Esquer, 2005; Schulz et al., 2000). Residents in poor neighborhoods and communities are more likely to experience stressful life events such as death of a loved one and criminal victimization (Fang, Madhavan, Bosworth, & Alderman, 1998; Kirvo & Peterson, 1996), as well as ongoing chronic strains including negative social interaction and discriminatory experiences (Schulz et al., 2000).

Many of the Black survivors of Hurricane Katrina may be at particularly high risk for physical and mental health problems owing to residence in high-poverty areas, the residential segregation that existed before the storm, and the greater economic dislocation experienced after the hurricane. Census data indicate that before Katrina, the city of New Orleans was 67% Black, and about a third of these people lived below the poverty line (U.S. Census Bureau, 2007). In addition to living through the traumatic experience of the hurricane and flooding and the loss of family, friends, and property, this population has

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disproportionately experienced secondary stressors in the aftermath of Katrina, including economic dislocation. Indeed, Elliott and Pais (2006), reporting results from a Gallup survey, found that Black workers from New Orleans were 3.8 times more likely to report having lost their pre-Katrina jobs than were Whites.

A vast literature discusses disaster preparedness, assessment, relief efforts, and the health and relocation consequences. However, few nursing scholars have viewed postdisaster health in the context of racial inequality and socioeconomic disparity that existed before Katrina. Scholarly works that incorporates racial and class disparity issues in understanding events surrounding Katrina are just beginning to appear in the literature (e.g., Bobo & Dawson, 2007; Childs, 2006; Cutter & Emrich, 2006). Although it is exciting to see scholars acknowledge the role of race and class disparities in relation to Katrina survivors' evacuation experiences, resources for rebuilding, and short- and long-term well-being, empirical results from vulnerable Katrina survivors' own voices are still very limited (for an exception, see Elliott & Pais, 2006).

Our study aimed to ameliorate this gap in the literature by investigating the relationship among economic vulnerability, perceived racial discrimination, and physical and mental health among Black survivors who resided in eastern suburbs of New Orleans, an area that was hard hit by Katrina. To improve health and health care among vulnerable populations, including Blacks in Katrina-affected areas, health care providers need information on the types and levels of problems that survivors experienced and the factors that influenced these problems. Thus, we have used a combination of quantitative and qualitative methods, including survey and focus groups, to address critical issues among Black survivors. In the following sections, we describe the study area and present the conceptual framework, the procedures used in our study, and the findings. We end with a discussion of the implications of our results for survivors' well-being.

Conceptual Framework

Vulnerable populations are social groups who experience or are at risk for experiencing health disparities because of the lack of resources or increased exposure to risk (Flaskerud, 1998; Flaskerud & Winslow, 1998), including individuals who live in poverty and are subject to discrimination and those who are politically marginalized or denied human rights (Amaro, 1995; Carlisle, Leake, Brook, & Shapiro, 1996; Guralnik & Leveille, 1997; Jetter, Orleck, & Taylor, 1995; Link & Phelan, 1996; Mann & Tarantola, 1996). The Vulnerable Populations framework (Flaskerud & Winslow, 1998) argues that health status, which can be measured by physical and psychological morbidity or mortality, reflects the dynamic interplay between two key factors: resource availability and relative risk. More specifically, resource availability refers to financial and external resources that can be used for health promotion and disease prevention, including human capital (e.g., poverty status), social status (e.g., powerlessness via racial discrimination), health care quality, and differential access to care. Relative risk reflects circumstances that increase exposure to health risks, such as unequal opportunity of receiving preventive care as well as exposure to stressful events. Individuals who have resources and more powerful social status are more likely to reduce their exposure to risks, which, in turn, results in better health. In contrast, those without resources are exposed to greater risks, and consequently, they may experience worse health conditions. Furthermore, the feedback loop in this framework suggests that increased morbidity and mortality in a population can further increase exposure to risks as well as further impoverish available resources. The Vulnerable Populations framework is very similar to the sociological stress perspective, which argues that lack of economic resources and disadvantaged social status negatively affect health by exposing individuals to higher levels of stress but that factors such as social support can reduce the effect of stress exposure, especially as it pertains to mental health (Pearlin, 1989). Using a combination of pre- and post-Katrina indicators, we examined how financial strain, racial discrimination, social support, and religiosity influenced Black survivors' well-being in the aftermath of Katrina.

The specific research questions were the following:

1. What were the reported levels of religiosity (pre-Katrina), perceived racial discrimination (during Katrina), financial strain (post-Katrina), perceived social support (post-Katrina), posttraumatic stress disorder (PTSD) symptoms (post-Katrina), and health-related quality of life (QOL; post-Katrina) among Black Katrina survivors?
2. How did religiosity, perceived racial discrimination, financial strain, and perceived social support affect Blacks' PTSD symptoms when controlling for sociodemographic variables?
3. How did religiosity, perceived racial discrimination, financial strain, and perceived social support affect Blacks' health-related QOL (physical and mental health) when controlling for sociodemographic variables?

METHODS

This analysis was based on data from two sources: self-reported survey data from 69 Blacks aged 18 and older, collected from February 2006 to February 2007; and two focus groups, one with six participants in New Orleans and one with five participants in Houston, Texas.

The survey relied on purposive sampling, a potentially very effective method for research that aims to understand and obtain information from a target population and in which sample representativeness may not be the primary concern (Trochim, 2006). Based on previous experiences with ethnic minority communities, we recruited members of this often hard-to-reach population after the disaster through community faith-based organizations, social service organizations, and personal contacts. Because of the delayed return patterns, our Black respondents were mostly recruited through a nonprofit social organization in Houston, Texas, that was assisting with tax preparation and disaster relief among Katrina survivors. The 69 survey participants resided in a number of pre-Katrina New Orleans neighborhoods; some have returned, whereas others remain part of the Katrina diaspora. The sample included individuals who resided in the easternmost residential subdivision of the city and Ninth Ward, one of the poorest and hardest Katrina-hit areas in New Orleans. Two investigators who were familiar with Black culture led the focus groups in Houston and New Orleans in March and June of 2006, respectively. Each focus group lasted 1 to 1.5 hr and was audiotaped with permission.

Each study participant (survey or focus group) received a small cash incentive, which appeared to be a culturally appropriate and effective way to encourage participation. Human-subject approval was received from the institutional review boards of Arizona State University and Ball State University. We followed specific guidelines for obtaining and protecting data, including obtaining written consents before conducting the study and securing data in a locked cabinet to which only investigators had access. Each participant was assigned a numeric code so no identifying information would be revealed. Participants were also told where and whom to call with questions regarding the study and were given a list of mental health providers who could provide assistance if any emotional issues occurred because of their participation.

Measures

We adapted questions from existing valid and reliable instruments, including a social support scale (Sherbourne & Stewart, 1991), coupled with measures of perceived racial discrimination and sociodemographic characteristics, to examine PTSD and health-related QOL among Black Katrina survivors. We also developed guiding questions for our focus groups. All instruments and focus-group questions were pilot tested among Black adults to provide an initial test of validity before participants were recruited.

We used the Impact of Event Scale—Revised (IES-R; Weiss & Marmar, 1997) to measure PTSD symptoms of the target population. The IES-R was designed to assess subjective distress parallel to the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition (DSM-IV) criteria for PTSD in the past 7 days for the disaster. There are 22 items in IES-R, including 8 items assessing intrusion, 8 items assessing avoidance, and 6 items tapping hyperarousal symptoms such as anger and irritability, heightened startle response, difficulty concentrating, and hypervigilance. Participants rated the items on a scale from 0 (*not at all*) through 4 (*extremely*), with the higher score suggesting more severe PTSD symptoms. Weiss and Marmar (1997) reported high internal consistency of the three subscales in their study of four different population samples (intrusion: .87–.92; avoidance: .84–.86; hyperarousal: .79–.90). The three subscales all have shown good predictive validity in detecting changes in clinical status over time and relevant differences in the response to traumatic events (Weiss & Marmar, 1997). Our study results demonstrated a satisfying internal consistency (Cronbach's $\alpha = .95$).

Health-related QOL was measured by the RAND 36-Item Health Survey v2 (SF-36 v2; Ware & Sherbourne, 1992), one of the most widely used instruments in health-related studies. The SF-36 v2 includes eight health concepts: physical functioning, role limitations caused by physical problems, role limitations caused by emotional problems, vitality, mental health, social functioning, bodily pain, and general health perceptions. Each response item in the SF-36 v2 scale was recoded with a value ranging from 0 to 100, with a higher score indicating a more favorable health state (Ware, Kosinski, & Dewey, 2000). We reworded Item 2 as "Compared to before Katrina, how would you rate your health now?" to better reflect the health status of Katrina survivors. Most of the published reliability statistics of the eight scales have exceeded .80, and reliability estimates for physical and mental summary scores usually exceeded .90. Studies that have adopted the SF-36 v2 have provided evidence of content, concurrent, criterion, and predictive validity (Ware,

Kosinski, & Keller, 1996). The eight subscales are hypothesized to form two distinct higher ordered components: physical health and mental health. We used physical health and mental health as separate outcome measures. Our study results demonstrated a satisfying internal consistency of 0.94 for physical health and 0.92 for mental health.

One question was asked regarding perceived racial discrimination during Katrina: "I have been treated badly because I am Black." Participants rated the item on a scale from 0 (*totally disagree*) through 5 (*totally agree*). Higher levels of perceived racial discrimination represented greater lack of resources. We measured financial strain by asking how difficult it was for Katrina survivors to meet their monthly financial obligations. The response ranged from 1 (*not difficult at all*) to 5 (*extremely difficult*). We chose this item instead of family or household income to measure participants' financial difficulty because income had a considerable number of missing responses. This single item better captured the extent to which individuals were subjectively experiencing financial hardship, which might have had a more devastating effect on health than did their objective conditions. Financial strain was viewed as a lack of resources within the vulnerability framework.

The Perceived Social Support Scale was developed to measure various dimensions of social support for patients with chronic conditions in the Medical Outcomes Study (MOS), a 2-year survey (Sherbourne & Stewart, 1991). There are a total of 18 items and four subscales assessing different types of support: emotional/informational, tangible, affectionate, and positive social interaction. Participants rated the frequency of availability of each kind of support on a scale from 0 (*never*) to 3 (*mostly*), with a higher score indicating more support. The previously reported alphas of these support measures were all above .90, and the measures were shown to be stable over time. The internal consistency was 0.97 for the perceived social support scale in our sample. As conceptualized in our vulnerability framework, survivors who perceived more support had lower relative risk.

Religiosity was regarded as a proxy of spirituality in this study because of the historical role that churches have played in organizing and supporting Black residents' lives in New Orleans. Additionally, literature has suggested that religiosity is important for coping with a variety of stressors (Ellison & George, 1994; Pargament, Smith, Koenig, & Perez, 1998; Taylor & Chatters, 1998). We measured religiosity using a single question: "How religious are you?" The responses ranged from 1 (*not at all*) through 4 (*very*). Survivors who were more religious were expected to have lower relative risk because of support received from church networks and the stress-relieving role of religiosity itself.

Sociodemographic characteristics included in this analysis were age, gender, and education. A "time since event happened" statement was included that measured the difference between the time Katrina hit and filling out the survey. The variable was added to the data analysis to control for the potential temporal bias on outcome measures.

Analyses

We used descriptive statistics, such as mean, standard deviation, and percentage, to describe major characteristics of the target population. Multiple regression was performed to investigate the relative effects of perceived racial discrimination, financial strain, social support, and religiosity on PTSD symptoms and the physical and mental health of Black Katrina survivors, controlling for sociodemographic factors. Because of the low missing-data rate (<5%), we substituted missing data by using the group mean when appropriate and compared results between nonimputed and imputed data sets. Results from nonimputed and imputed data sets did not show substantial differences.

Regarding the focus-group data, we transcribed the tapes, and then research team members conducted a validity check. Transcripts were organized along particular themes, including instance of discrimination and economic difficulties.

RESULTS

The sociodemographic profile of our respondents indicated that they averaged 46 years of age, showed fairly high levels of religiosity (M = 3.47), and were surveyed on average 8 months post-Katrina; 35% were male, and 75% were without a bachelor's degree. Results of descriptive analyses (Table 1) indicated that respondents reported means of 39.47 PTSD symptoms, 60.32 on the physical health measure, and 57.27 on the mental health measure. Although levels for all three outcomes indicated that respondents fell into the midrange of scores, it was instructive that almost 21% scored 1 standard deviation above the mean on the PTSD symptoms, and 14.5% scored a standard deviation below the mean on each of the physical and mental health measures. Thus, the data suggested that a significant minority are at high risk for poor health outcomes. Furthermore,

TABLE 1. Descriptive Statistics of Key Variables Among Black Katrina Survivors (*n* = 69)

Variable	Range	*M* (*SD*)	%
Outcome			
PTSD symptoms (IES-R)	0–88	39.47 (21.24)	
Physical health (SF-36 v2)	0–100	60.32 (21.89)	
Mental health (SF-36 v2)	0–100	57.27 (22.14)	
Predictor			
Perceived racial discrimination during Katrina	0–5	2.28 (1.95)	
Financial strain post-Katrina	1–5	2.81 (1.46)	
Perceived social support post-Katrina	0–3	1.88 (0.89)	
Sociodemographic characteristics			
Age	≥18	45.85 (13.71)	
Male	0–1		34.80
Education (less than a bachelor's degree)	0–1		75.40
How religious before Katrina	1–4	3.47 (0.64)	
Time since Katrina (in months)	>0	8.24 (2.42)	

Note: PTSD = posttraumatic stress disorder; IES-R = Impact of Event Scale—Revised; SF-36 v2 = RAND 36-Item Health Survey v2.

TABLE 2. Prediction of PTSD Symptoms Among Black Katrina Survivors (*n* = 69)

Variable	Model I	Model II	Model III	Model IV
Male	–0.19	–0.20*	–0.22*	–0.23*
Age	0.00	0.01	0.10	0.10
Time since Katrina (in months)	0.11	0.10	0.19	0.17
Religiosity before Katrina	0.07	0.09	–0.01	0.01
Perceived racial discrimination during Katrina		0.35***	0.29**	0.28**
Financial strain post-Katrina			0.31**	0.26*
Perceived social support post-Katrina				–0.10
Adjusted R^2	.01	.13	.20	.20

Note: PTSD = posttraumatic stress disorder.
*$p < .10$; **$p < .05$; ***$p < .01$.

about half of respondents reported being treated badly during Katrina because of their race, and 52% of them reported having somewhat to extremely difficult financial strain after Katrina. Respondents also reported a moderate level of social support received after Katrina ($M = 1.88$).

Multivariate analyses of PTSD symptoms (Table 2) revealed that racial discrimination and financial strain were positively associated with more symptoms. Although perceived support post-Katrina was not significant in Model IV, the significance level of the financial strain measure declined from .05 to .10, suggesting that perceived support offset some of the effects of financial strain. Finally, the results also indicated that Black females reported more PTSD symptoms.

The experiences of Hurricane Katrina could be very painful, with or without witnessing horrific events in the city during the aftermath of the storm and flooding. One Black focus-group participant said, "[I have] family that worked 911 for New Orleans heard people screaming for help and just heard them die over the phone."

Black Katrina evacuees also expressed how badly they were treated during Katrina:

> It makes you cry, it really does. It brings . . . whenever you look at it or hear it, tears come rolling down . . . it's just so sad to see how *our people* were treated during this, like we were animals. We're hard working, we pay taxes, and I think it was very unfair!

Participants reported discrimination not only across color lines but also coethnic discrimination among the Black group that evacuated from New Orleans to Houston, which may have caused a second trauma and high psychological distress. One focus group participant in Houston said,

TABLE 3. Prediction of Physical Health Among Black Katrina Survivors

Variable	Model I	Model II	Model III	Model IV
Male	0.15	0.16	0.17	0.18
Age	–0.12	–0.13	–0.18	–0.18
Time since Katrina (in months)	0.08	0.08	0.03	0.08
Religiosity before Katrina	0.12	0.11	0.17	0.13
Perceived racial discrimination during Katrina		–0.16	–0.12	–0.11
Financial strain post-Katrina			–0.19	–0.08
Perceived social support post-Katrina				0.23*
Adjusted R^2	.04	.06	.09	.13

*$p < .10$.

> I don't have problems with the Asians, I don't have problem with the Indians . . . but the problem I'm having with is all Black people [in Houston].

Another commented,

> [Black people in Houston] said y'all need to go back home . . . they see your license . . . and they see Louisiana, and they're like, "You ready to go back home?" Or "When are you going back home?" . . . This is still a dramatic thing that happens to you, and you're like . . . they're like, okay, 6 months . . . get over it.

Lack of resources limited their resettlement options in New Orleans and elsewhere. Black Katrina survivors expressed frustration about their inability to return and the lack of financial assistance. One participant said, "I stay in a hotel . . . very expensive . . . you can't believe . . . the gas is very high, water is very scarce . . . have you been back?" Another participant responded, "Another thing I can't understand: all these fundraisers, concerts where they donated so much money, Katrina victims are not getting anything. They said they're doing this for Katrina victims." Other participants verbally affirmed this comment:

> Everybody wants to come here [the social service agency] because there is absolutely no consistency as to how you get qualified [for money], if you get and what you get. And that's not just FEMA, that's every government agency.

Financial strain, including the lack of consistent information about the types of financial support available from different levels of social systems, angered and distressed Black Katrina survivors.

The only statistically significant variable associated with better physical health status was perceived social support post-Katrina, and no gender difference was found (Table 3). With respect to mental health, Black Katrina survivors who perceived lower levels of racial discrimination reported better mental health. However, the relationship was no longer significant once perceived support was entered into the model (Table 4). Similar to physical health, perceived social support post-Katrina mediated the negative effect of discrimination on respondents' mental health. The well-known relationship between gender and health was evident among these respondents, as Black men reported better mental health than did women.

Black Katrina survivors received social support both from their Black and Vietnamese American neighbors:

> We were back before the electricity was on. We were helping each other out with generators and different things we need to survive, and we were closer together. And now we will come out to give anything they need to survive, because they will trade with and they tried to build it up with something before. And now, down in the street, different families will come out together, they will keep the street clean till the garbage car came to pick up stuff. I think it brought us closer together.

DISCUSSION

A major finding of this study was that survivors who lacked financial resources faced higher risks for general mental health problems as well as PTSD. The economic difficulties were a direct reflection of the catastrophic loss of human capital that resulted from the hurricane and subsequent flooding. *Human capital*, in the broader sense, refers to social and economic investments, such as jobs, income, and housing, that form the basis of human productive potential (Aday, 1997). With their productive potential severely compromised and with uncertainty regarding recovery of pre-Katrina resources (Li,

TABLE 4. Prediction of Mental Health Among Black Katrina Survivors

Variable	Model I	Model II	Model III	Model IV
Male	0.21*	0.22*	0.23*	0.25**
Age	0.17	0.16	0.11	0.12
Time since Katrina (in months)	0.01	0.02	–0.03	0.04
Religiosity before Katrina	0.16	0.15	0.21	0.13
Perceived racial discrimination during Katrina		–0.24**	–0.20*	–0.18
Financial strain post-Katrina			–0.18	0.02
Perceived social support post-Katrina				0.41***
Adjusted R^2	.06	.10	.12	.24

*$p < .10$; **$p < .05$; ***$p < .01$.

Airriess, Chen, Leong, & Keith, 2007), risks for mental health problems are likely to continue, if not increase, among survivors.

Our findings also suggest that exposure to racial discrimination increases health-related risk for Katrina survivors. Those who believed that they were treated badly because of their race during the disaster were at especially high risk for PTSD. Despite claims that the United States is now a colorblind society in which racism no longer exists, numerous studies have documented that racism remains embedded in our major social institutions and in day-to-day social interactions (Bonilla-Silva, 2003; Fegin, 2001) and that race-based discrimination is inversely related to mental health (Brown et al., 2000; Kessler, Mickelson, & Williams, 1999; Taylor & Turner, 2002). The evacuation process, which had or gave the appearance of having racial overtones, served to highlight vulnerability on the basis of race.

Similar to financial strain, researchers have long noted that social connectedness is an important dimension of health. The most important function of social connectedness or networks is the provision of social support to members, support that is often pivotal for the survival of Blacks and other minorities (Airriess, Li, Leong, Chen, & Keith, 2007; Hill-Collins, 2000; Yosso, 2005; Zhou & Bankston, 1998). In the case of Katrina survivors, the support provided by network members served to enhance mental and physical health. Indeed, having support may have buffered the deleterious effects of financial strain and racial discrimination in the case of our measure of overall mental health.

It is noteworthy that Black male survivors were advantaged relative to female survivors in terms of PTSD symptoms and general mental health. Individuals with higher social status have more power than those with lower status, and power is important for knowledge, avoiding risk, and minimizing the consequences of risk (House, Kessler, & Herzog, 1990). In the case of Black female survivors, Black female single heads of households in New Orleans already faced greater risk than other groups because of the high likelihood of living in poverty (Ransby, 2006). They were the most likely to evacuate without their families and to have made multiple stops during the evacuation process (Li et al., 2007).

Furthermore, Blacks often turn to religious institutions and rely on strong religious beliefs to cope with life events that engender psychological distress (Ellison & Taylor, 1996; Krause, 1992). Religious involvement has frequently been positively correlated with increased levels of psychological well-being among Black women (Ellison & Gay, 1990; Handal, Black-Lopez, & Moergen, 1989). Some have also suggested that greater levels of religiosity (nonorganizational forms of private religious involvement such as inspirational prayer, Bible reading and study, and personal spiritual devotion) are positively linked to better psychological health and self-worth (Ellison, 1993; Lincoln & Chatters, 2003). In the current study, the nonsignificant relationship between pre-Katrina religiosity and post-Katrina health outcomes among Black Katrina survivors may suggest that the damages caused by Katrina are too devastating to be overcome, even for Blacks who were very religious. Another plausible explanation is that the high proportion of participants indicating that they were religious may have attenuated the variance in this measure.

Several study limitations should be noted. Our findings could be biased because of the small sample size, which is in large part caused by the low return rate of impoverished Blacks to the study area and to the difficulty of tracking disaster survivors in evacuated areas. We used multiple sources to maximize the size and representativeness of the sample. Secondly, the survey data were collected at different times during the year following Katrina. This may have created temporal bias because of different degrees and types of effects resulting from Hurricane

Katrina. Thus, we attempted to reduce bias by incorporating a time variable in the analysis. Finally, the lack of predisaster data on health-related outcome measures made it difficult to draw causal relationships among variables.

IMPLICATIONS

The relationship between poverty and negative health consequences, including mental disorders and psychological distress, is well documented worldwide (e.g., Patel, 2007). A review of the literature by Fothergill and Peek (2004) suggested that individuals who live in poverty are more vulnerable than the nonpoor to natural disasters during the periods of emergency response, recovery, and reconstruction. In addition, nursing scholars have voiced the need to incorporate the study of race and racism into nursing research to assist in eliminating health disparities among racial and ethnic groups (Porter & Barbee, 2004). Findings from this study add to the body of evidence that lack of resources, including financial strain and perceived racial discrimination, can have profound effects on those who were already vulnerable before a devastating disaster. Although social support mediated the harmful effects associated with negative health outcomes among Black Katrina survivors, it came from victims themselves and not from broader social systems that have obligations to protect the people that they serve.

In conclusion, economic vulnerability has profound effects on human health. However, given the historical legacy of slavery, racial oppression, contemporary racial dynamics, and economic and gender inequality, Blacks, especially females, remain one of most vulnerable population groups in U.S. society (Danziger & Danziger, 2006; Ransby, 2006). Hurricane Katrina signifies the social inequities that continue to oppress Blacks, and the magnitude of human suffering is astounding. Research and public policies need to directly address the intricacies of race, class, and gender inequality in disaster preparation, postdisaster rescue, and recovery mission and rebuilding efforts (Dyson, 2006; Herring, 2006).

As Beeber (2007) pointed out, psychiatric mental health nurses who have a long history working with economically disadvantaged individuals in a variety of settings are in a unique position to provide psychosocial care through research, practice, and policy. Psychiatric mental health nurses need to be equipped with knowledge and skills to respond to economically disadvantaged disaster survivors' needs during the acute phase as well as short- and long-term recovery stages. Disaster education will be a key factor in preparing current and future psychiatric mental health nurses for disaster relief and should be included in the regular and continuing education curriculums. In working with vulnerable populations in community settings, the authors found collaborating with community and religious agencies to be effective in reaching target populations and gaining trust and acceptance. Psychiatric mental health nurses need to partner with community and religious leaders and governmental and health agencies to maximize the resources for effective and culturally appropriate interventions. Furthermore, psychiatric mental health nursing scholars must examine health issues within a particular social, historical, political, and cultural context and incorporate empirical findings to advance science, develop evidence-based practices and interventions, and promote policy changes.

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